REMARKS/ARGUMENTS

Claims 3-5 were pending in the present application before this amendment as set forth above. By this amendment, claim 3 is amended. The amendment was not presented earlier because applicant genuinely believed that the previously presented claims were in condition for allowance. Applicant respectfully submits herewith the Preliminary Amendment, concurrently with an RCE request. Accordingly, these amendments should be admitted and entered.

A Final Office Action was issued December 9, 2008, where claims 3-5 were rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent No. 6,256,016 to Piot et al. (hereinafter "Piot") in view of US Patent No. 4,794,384 to Jackson (hereinafter "Jackson"). Applicant timely filed an Amendment February 25, 2009 responsive to the Final Office Action. However, the Amendment was considered not placing the application in condition for allowance and an Advisory Action was subsequently issued April 1, 2009.

Applicant very appreciates the Primary Examiner's careful review of the present application.

In response, as set forth above, claim 3 has been amended for better form. Specifically, claim 3 has been amended to recite the limitations: "none of the laser speckles is stored", and "no cross-correlation analysis is performed in the determination of the relative displacement". Applicant respectfully submitted the recited limitations are inherently disclosed in the present application, as originally filed. For example, referring to in FIGS. 5 and 6 of the drawings and the paragraphs from page 8, lines 9-30 through page 9, lines 1-10 of the specification, after laser speckle signals from the object surface illuminated by laser beams are received by the photo sensor 5, relevant photoelectric signals are transferred to the amplifying and shaping module 1 for processing, and then they are processed by the direction identifying and counting module 2 to determine the moving direction of the speckles in the entire two-dimensional plane, so as to obtain the moving direction of the mouse device. The direction of said component of the relative displacement vector is determined by the skewing of the electric signals produced by these two or more photoelectric sensing units. In other words, in performing the steps claimed

in claim 3 of the present invention, none of the laser speckles is stored, and no cross-correlation analysis is needed. Thus, no new matter and no new issue are introduced in the amendment.

Furthermore, applicant respectfully submits that the amendment places this application in condition for allowance, and thus respectfully requests the amendment be entered and the application be allowed.

Any amendments to the claims not specifically referred to herein as being included for the purpose of distinguishing the claims from cited references are included for the purpose of clarification, consistence and/or grammatical correction only.

It is now believed that the application is in condition for allowance and such allowance is respectfully requested.

The following remarks herein are considered to be responsive thereto.

A claimed invention may be found to have been obvious "***if the differences between the subject matte***r sought to be patented and the prior art are such that ***the subject matter as a whole would have been obvious*** at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." as 35 U.S.C. 103(a). Moreover, the Federal Circuit has ruled on numerous occasions that a holding of "obviousness" requires some motivation, suggestion or teaching within the cited references that would lead one skilled in the art to modify the cited reference(s) as claimed by applicant. See, for example, In re Kotzab, 217 F.3d 1365, 1369-70, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000), which states:

> "Most if not all inventions arise from a combination of old elements. See In re Rouffet, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998). Thus, every element of a claimed invention may often be found in the prior art. See id. However, ***identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention***. See id. Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant. See In re Dance, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir.

> 1984). Even when obviousness is based on a single prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference. See B.F. Goodrich Co. v. Aircraft Breaking Sys. Corp., 72 F.3d 1577, 1582, 37 USPQ2d 1314, 1318 (Fed. Cir. 1996)."

As set forth above, amended claims 3 recites a method for processing optical signals in a computer mouse, characterized in that, "a laser beam is provided to illuminate the surface of an object, laser speckles are produced in the vicinity of the illuminated object surface; when the mouse is moving, the signals of the laser speckles are received by a photo sensor installed in the mouse, and the signals are processed, so as to calculate the quantity of laser speckle pulses received by the photo sensor, and to determine the relative displacement between the photo sensor and the illuminated object surface producing laser speckles on the basis of the average size of the laser speckles, wherein ***none of the laser speckles is stored***, and wherein ***no cross-correlation analysis is performed*** in the determination of the relative displacement." (Emphasis added.)

In one embodiment of the present invention, when the speckle is passing through the pixel, the changes of the brightness of the speckle results in the changes of the output signal of the pixel, the changing times of the output signal of the pixel are collected and counted, the movement information of the laser speckle is calculated by multiplying the counted values of the output signal of the pixel and the average size of the laser speckles. Thus, according to the present invention, none of the laser speckles is stored, and no cross-correlation analysis is performed in the determination of the relative displacement.

In contrast, as understood by applicant, Piot discloses a method of detecting movement of an optical pointing device, characterized in that, "the new unambiguous speckle image data signal generated by the photosensor arrays is captured in the storage medium" (Piot, col. 4, lines 48-50). In other words, Piot's method requires ***the new speckle image data signal*** be collected and ***stored in the storage medium***. Therefore, Piot teaches away from the method recited in amended claim 3 of the present invention.

Furthermore, in Piot, "***[t]he new speckle image data signal and the previous speckle image data signal that are stored in the storage medium*** are then ***used to perform an image motion detection calculation, such as a cross-correlation analysis***, using a cross-correlation module to determine the displacement of the two sets of speckle images. The calculated displacement corresponds to the movement of the optical pointing device." (Piot, col. 4, lines 50-57). Therefore, Piot's method requires a method of cross-correlation analysis, which is distinctly different from the method recited in amended claim 3 of the present invention.

Additionally, Jackson discloses "means to determine the degree of correspondence of the values of adjacently positioned cells in consecutively produced samples. Said means to determine comprises means to total the number of identical values achieved between a number of said array cells under consideration in a present samples as compared with neighboring adjacent cells of a previous sample aligned in orthogonal directions ...." (Jackson, col. 12, lines 30-64). In other words, Jackson requires the degree of correspondence of the values of adjacently positioned cells be detected. Moreover, Jackson requires ***comparing with neighboring adjacent cells***. However, as claimed in amended claim 3 of the present invention, the invented method requires calculating the quantity of laser speckle pulses. Therefore, Jackson teaches away from the method claimed in amended claim 3.

In other words, neither Piot nor Jackson, taken alone or in combination, disclose, teach or suggest the method for processing optical signals in a computer mouse, recited in amended claim 3.

Accordingly, applicant respectfully submits that the Examiner has failed to make a *prima facie* case to support the rejections to claim 3 under 35 U.S.C. §103(a) over Piot nor Jackson. First, there is no suggestion or motivation to modify the references or combine the reference teachings. Second, there is no reasonable expectation of success of combining the reference teachings. Finally, even if they were combined, as set forth above, the combination of the references still would not teach or suggest ***all*** elements of Applicant's claims.

Therefore, for at least the foregoing reasons, in particular, because the Examiner did not present "a finding that the prior art included each element claimed" by amended claim 3, independent claim 3 is patentable under 35 U.S.C. §103(a) over Piot nor Jackson.

Accordingly, amended claims 4 and 5, which depend from now allowable amended claim 3, are also patentable over Piot nor Jackson at least for this reason.

CONCLUSION

Applicant respectfully submits that the foregoing Amendment and Response place this application in condition for allowance. If the Primary Examiner believes that there are any issues that can be resolved by a telephone conference, or that there are any informalities that can be corrected by an Examiner's amendment, please call the undersigned at 404-495-3678.

Respectfully submitted,

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